AIS Programming Standards

SQL-Related Standards

Standards

1. Keep queries simple. Use multiple simple queries instead of one complex query.
2. On program-forced abends, use the ROLLBACK command.
3. Never imbed DDL (e.g., CREATE, ALTER, DROP) or GRANT statements in production programs.
4. Always check the Status Code after every SQL call.

Guidelines

- Avoid dynamic SQL in production programs.

Select/Cursor Statement Standards

1. When reading only one, unique row from a yable, use SELECT. When the WHERE clause could result in more than one row, CURSOR must be used.
2. Select only the data needed, do not select any unused columns.
3. Never use SELECT * when reading tables from other applications.
4. Utilize SQL functions, e.g., AVG, COUNT, etc., rather than performing these calculations within a program.

Guidelines

- Never use SELECT *.

Where Clause Standards

1. Use BETWEEN instead of '>= and <='.
2. Do not use LIKE phrases beginning with an unknown character, i.e., % or _.
3. Do not utilize arithmetic expressions in SQL WHERE clauses.
4. Do not use of ' NOT BETWEEN', 'NOT LIKE', 'NOT IN'.
5. Do not use subselects, e.g., Select .... from ... where xxx = (select xxx from ... where... etc.) Break

the query into two separate queries instead.

Guidelines

- Whenever possible, include the first column of an index in the selection. If this is not referenced, index will not be used.

Joins Standards

1. Specify all common information when joining tables.
2. Use JOINs instead of correlated subqueries.
3. Join as few tables as possible to get the necessary data. No join should specify more than 5 tables in one select.

Guidelines

- Avoid joining a table to itself. If it is necessary, use UNION instead.

Updates Standards

1. Use mass updates and deletes in place of updating or deleting one row at a time.
2. Use COMMIT in large updates of tables to force intermediate updates and release locks.
3. Don't include Key fields on 'Update of'

Guidelines

- When batch updating a large number of records in a table, conduct performance testing of the update in a sequential file, then re-load all data to the table.

Indexes Guidelines

- Consider adding indexes for columns used in ORDER BY or GROUP BY clauses

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